

REMARKS

Claim Rejections

The Examiner has rejected claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over either Kim (USP No. 6,414,921) or Tada (USP No. 6,522,605) further considered with Iwanaga (USP No. 6,459,661).

Drawings

It is noted that no Patent Drawing Review (Form PTO-948) was received with the outstanding Office Action. Thus, Applicant must assume that the drawings are acceptable as filed.

Claim Amendments

Applicant thanks the Office for the attention accorded the present Application in the July 28, 2006, Office Action. Claims 1-19 are pending in this application. Reconsideration in view of the following remarks is respectfully requested.

Applicant does not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicant reserves the right to pursue the full scope of the subject matter of the claims in a subsequent patent application that claims priority to the instant application.

New Title

In compliance with the Office's request, Applicant amends the title as "METHOD OF FOCUS POSITION ADJUSTMENT BY CONTROLLING A DEVIATION VALUE AND SYSTEM THEREOF." It is believed that the new title is clearly indicative of the invention to which the claims are directed.

37 CFR 1.75(c) Objection

The Action indicates that claims 2, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16, and 17 are objected to under 37 CFR 1.75(c) as being of improper dependent form. In particular, claims 2, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16, and 17 refer to parent claims 1 or 11. It is noted that claim 1 is not written in the standard means plus function

languages as stipulated in 35 U.S.C. §112 parags 1-3. Hence dependent claims 2-8 and 10 fail to comply with the standard "means plus function" terminology. Claim 11 is a method; however, claims 12-17 attempt to include apparatus limitations—resulting in improperly dependent claims.

Applicant respectfully submits that the amended claims render the objection moot. Applicant respectfully submits that claim 1, as amended, recites "structure, material, or acts in support thereof" ("a deviation value detection module to determine a deviation value according to the focus error signal generated *within* the header after the optical storage device finishes tracking closed loop wherein *the deviation value is obtained from a comparative value of the level of the focus error signal of the header and a reference level of the recording area*") and therefore falls outside the ambit of means plus function languages under 35 U.S.C. §112 paragraph 6. Third, claims 13, 15 and 16 are canceled. Reconsideration of the objection of claims 2, 4, 5, 6, 7, 8, 10, 12, 14, and 17 is hereby requested.

35 U.S.C. §103(a) rejection based on Kim, Tada and/or Iwanaga

1. The combination of Kim, Tada and/or Iwanaga does not render independent claims 1 and 11 obvious

The Office rejects claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over either Kim or Tada further in consideration of with Iwanaga.

a. Claim 1

Applicant traverses the rejection of claim 1 because Applicant submits that the Office has misinterpreted these citations and these citations, individually or in combination, fail to teach or suggest each of the claim limitations.

First, in the rejection of claim 1, the Office states "Applicants' attention is drawn to either figure 51 in Kim, or figures 5-9 in Tada et al" (Office Action, page 4). There is, however, no figure 51 in Kim's disclosure. It is therefore requested by Applicant that the Office clarify the statement and clearly indicate the relevant disclosure by Kim on which the rejection is based.

Second, the Office admits that "[t]here is no clear depiction that the header area/region is relied upon for the function as recited" (Office Action, page 4). The Office, however, alleges that "Iwanaga teach in this environment the ability of having

the header area/signal incorporated into the focusing process? see the discussion with respect to figure 13. It would have been obvious to modify the base system of either Kim or Tada et al with the above additional teaching from Iwanaga so as to ensure proper focus offset compensation as noted by the Iwanaga reference" (Office Action, page 4).

In this regard, claim 1, as amended, recites,

1. A focus position adjustment system for adjusting a focus position, by which an optical storage device reads an optical storage medium, the optical storage medium comprising a header and a recording area, a focus error signal being generated as the optical storage device reads the medium, the system comprising:

a deviation value detection module configured to determine a deviation value according to the focus error signal generated within the header after the optical storage device finishes tracking closed loop *wherein the deviation value is obtained from a comparative value of the level of the focus error signal of the header and a reference level of the recording area*; and

a focus control module configured to adjust the focus position to make the deviation value fall in a predetermined range.

(emphasis added).

In addition to the above claim language, Applicant also explains in great detail in the specification how the "deviation value" can be obtained. In an exemplary and non-limiting disclosure, Applicant explains,

Usually, when the optical storage device 10 reads the header and the recording area, focus error signals are generated in different levels. The level of the focus error signal of the recording area is defined as a reference level. The difference between the level of the focus error signal of the header and the reference level is defined as a deviation value.

(page 5, lines 18-22, Application)

In contrast, Iwanaga discloses none of the aforementioned claimed features recited in claim 1 of the present invention. The Office directs Applicant's attention to the discussion with respect to figure 13 in Iwanaga, which is provided in full length in the following.

As shown in FIG. 13, when light beam scans the header region not only track error signal but also focus error signal 204 incurs a large offset. It is assumed that this is affected by the optical turning of track error signal into focus error signal or a phase difference. Hereupon, it is apparent that excessive drive current is supplied to the actuator, thereby the focus control becomes unstable. However, the actuator itself cannot move even when an optical offset occurs at the header region. Because, to the servo control band, in general, the length of header region is not made to be long, therefore the playback of header region incurs no problem.

However, as shown in FIG. 13, when starting the recording after passing the header region, depending on the composition of optical head, there occurs a focus offset due to the chromatic aberration of objective lens, by a phenomenon called a jump of wavelength in semiconductor laser. This focus offset interferes with the focus offset occurring near the header region, thereby the focus control is made to be further unstable, causing a failure in recording.

So, in this embodiment, the unstable-focus-control condition can be avoided by using servo error signal from the sample hold circuit 41 that uses the output of header region signal from the header region detector 30, holding a focus error signal value of at least several bytes of sector format before the output time, from the finish of header region signal until just before the recording starts.

However, even in this composition, when the transfer function varies due to a deterioration of actuator system with age, the focus control may be unstable. So, in this embodiment, further by measuring signal of focus offset waveform occurring at the header region to be detected by the header region detector 30 by a previous learning etc., then subtracting this from the servo error signal in the adder circuit 44, the focus follow-up performance can be stabilized. Also, other than the simple reverse function of focus offset waveform, an arbitrary waveform generated by the arbitrary waveform generating circuit 40 can be added or subtracted to produce servo error signal while securing the stability of the servo control system including actuator system.

The arbitrary waveform may be, for example, a rectangular pulse with arbitrary height and width. Here, the arbitrary values may be determined taking a step response waveform of the servo system including actuator system into account. Also, they may be, or course, a DC value simply. This corresponds to the simple adding/subtracting

of focus offset, and, in this case, by using write gate signal (WGATE) which is gate signal for the start of recording, the timing of adding/subtracting may be controlled. Thus, the focus offset can be switched between the playback and the recording. Also, the selection of signal from the arbitrary waveform generating circuit 40 can be conducted based on land/groove signal from the system controller or the track region detector, described earlier, that conducts the detection of land/groove signal to detect whether the recording track scanned by light beam is a land region or a groove region.

Meanwhile, though not shown, the arbitrary waveform generating circuit 40 is, for example, composed so that an A/D converter takes in focus error signal, e.g., only near the header region for a predetermined time, accumulating it into a RAM memory, and a D/A converter converts it when outputting the signal. By this composition, the reverse function of focus offset waveform can be obtained. Also, when generating a true arbitrary waveform, by providing an operation means to develop the function on a RAM memory, the signal can be output by using a D/A converter.

(col. 15, line 17--col. 16, line 16).

Nothing in Iwanaga suggests or discloses the recited features of the "deviation value detection module" and the "focus control module" in claim 1. Should the Office have different interpretations, Applicant requests that the Office specifically point out the disclosure in Iwanaga to frame a proper rejection under 35 U.S.C. §103(a). It is therefore believed that claim 1 of the present invention is substantially different from the disclosure in the combination of Kim, Tada and/or Iwanaga. Accordingly, Applicant asserts that the combination of Kim, Tada and/or Iwanaga does not render claim 1 obvious and respectfully requests withdrawal of the rejection.

b. Claim 11

Applicant traverses the rejection of claim 11 because Applicant submits that the Office has misinterpreted these citations and these citations, individually or in combination, fail to teach or suggest each of the claim limitations. Specifically, Applicant respectfully submits that the citation made of record does not disclose the claimed features: "after the optical storage device finishes tracking closed loop, determining a deviation value according to the focus error signal generated within

the header *wherein the deviation value is obtained from a comparative value of the level of the focus error signal of the header and a reference level of the recording area*" and "adjusting the focus position to make the deviation value fall in a predetermined range."

In a similar matter as set forth in the arguments in claim 1, it is therefore believed that claim 11 of the present invention is substantially different from the disclosure in the combination of Kim, Tada and/or Iwanaga. Accordingly, Applicant asserts that the combination of Kim, Tada and/or Iwanaga does not render claim 11 obvious and respectfully requests withdrawal of the rejection.

2. 35 U.S.C. §103(a) rejections of the other dependent claims

Applicant submits that the dependent claims 2-10, 12, 14, and 17-19 not specifically addressed herein are allowable for the reasons discussed in pertinent portions associated with their independent claims 1 or 11, as well as for their own additional features. Accordingly, Applicant asserts that the cited prior art does not render claims 2-10, 12, 14, and 17-19 unpatentable as obvious and respectfully requests withdrawal of the rejections. Reconsideration of claims 2-10, 12, 14, and 17-19 is respectfully requested.

3. Insufficiency to constitute a proper motivation to combine Kim, Tada and/or Iwanaga under 35 U.S.C. §103(a) case law

As a separate and independent basis for the patentability of pending claims, Applicant submits that the Office has failed to identify a proper suggestion or motivation to combine the selective teachings of the various references. In combining Kim, Tada and/or Iwanaga, the Office states only that "Iwanaga teach in this environment the ability of having the header area/signal incorporated into the focusing process--see the discussion with respect to figure 13. It would have been obvious to modify the base system of either Kim or Tada et al with the above additional teaching from Iwanaga so as to ensure proper focus offset compensation as noted by the Iwanaga reference" (Office Action, page 4). This allegation, however, is insufficient to constitute a proper motivation to combine the cited references.

In this regard, it is well-settled law that in order to properly support an obviousness rejection under 35 U.S.C. § 103, there must have been some teaching in the prior art to suggest to one skilled in the art that the claimed invention would have been obvious. W. L. Gore & Associates, Inc. v. Garlock Thomas, Inc., 721 F.2d 1540, 1551 (Fed. Cir. 1983). More significantly,

"The consistent criteria for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this [invention] should be carried out and would have a reasonable likelihood of success, viewed in light of the prior art. ..."
Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure... In determining whether such a suggestion can fairly be gleaned from the prior art, the full field of the invention must be considered; for the person of ordinary skill in the art is charged with knowledge of the entire body of technological literature, including that which might lead away from the claimed invention."

(Emphasis added) In re Dow Chemical Company, 837 F.2d 469, 473 (Fed. Cir. 1988).

In this regard, Applicant notes that there must not only be a suggestion to combine the functional or operational aspects of the combined references, but that the Federal Circuit also requires the prior art to suggest both the combination of elements and the structure resulting from the combination. Stiftung v. Renishaw PLC, 945 Fed.2d 1173 (Fed. Cir. 1991). Therefore, in order to sustain an obviousness rejection based upon a combination of any two or more prior art references, the prior art must properly suggest the desirability of combining the particular elements to realize a focus position adjustment system/method, as claimed by the Applicant.

When an obviousness determination is based on multiple prior art references, there must be a showing of some "teaching, suggestion, or reason" to combine the references. Gambro Lundia AB v. Baxter Healthcare Corp., 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (also noting that the "absence of such a suggestion to combine is dispositive in an obviousness determination").

Evidence of a suggestion, teaching, or motivation to combine prior art references may flow, inter alia, from the references themselves, the knowledge of

one of ordinary skill in the art, or from the nature of the problem to be solved. See In re Dembiczak, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Although a reference need not expressly teach that the disclosure contained therein should be combined with another, the showing of combinability, in whatever form, must nevertheless be "clear and particular." Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617.

If there was no motivation or suggestion to combine selective teachings from multiple prior art references, one of ordinary skill in the art would not have viewed the present invention as obvious. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); Gambro Lundia AB, 110 F.3d at 1579, 42 USPQ2d at 1383 ("The absence of such a suggestion to combine is dispositive in an obviousness determination.").

Significantly, where there is no apparent disadvantage present in a particular prior art reference, then generally there can be no motivation to combine the teaching of another reference with the particular prior art reference. Winner Int'l Royalty Corp. v. Wang, No 98-1553 (Fed. Cir. January 27, 2000). Well-established Federal Circuit case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999). Evidence of teaching or suggestion is "essential" to avoid hindsight. In re Fine, 837 F.2d 1071, 1075 (Fed.Cir.1988). A description of the particular "teaching or suggestion or motivation [to combine]" is an "essential evidentiary component of an obviousness holding." C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352 (Fed.Cir.1998). Indeed, in forming an obviousness type rejection, "the [Examiner] must identify specifically ... the reasons one of ordinary skill in the art would have been motivated to select the references and combine them." In re Rouffet, 149 F.3d 1350, 1359 (Fed.Cir.1998). The Examiner can satisfy this burden of establishing obviousness in light of combination "only by showing some objective teaching [leading to the combination]." In re Fritch, 972 F.2d 1260, 1265 (Fed.Cir.1992).

Since the Office Action has failed to comply with these legal standards, Applicant submits that the rejections of the respective claims should be withdrawn.

Application No. 10/673,416

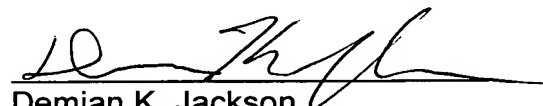
Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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